

**SPACE POLICY INSTITUTE  
ELLIOTT SCHOOL OF INTERNATIONAL AFFAIRS  
GEORGE WASHINGTON UNIVERSITY**

IAFF 3180

Tu/Th, 11:10 am -  
12:25 pm

Spring 2021

Virtual

**Space Power in Global Affairs**

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Synopsis

This course will address international space policy issues facing the United States and places them in the larger context of technological advances and a changing international strategic environment. The course will briefly examine the technical, historical and policy foundations for U.S. and international space programs and activities. It will then address current issues facing U.S. space programs as a result of globalization (more state actors in space) and democratization (more non-government actors in space). The course will also address strategic choices facing other nations in space activities, including cooperation and competition among U.S., European, Chinese, and Russian space capabilities, and developing indigenous space programs. Conflicts over dual-use technologies, such as space launch, remote sensing, satellite navigation, and communications, will be examined for their impacts on a wide range of national interests.

Major themes of the course include:

- The “geopolitics” of the space environment (e.g., a lay understanding of orbital mechanics) and the fundamental characteristics of space as an operational medium
- The role of space organizations and sectors in developing and implementing space technologies, strategies, doctrines, and national policies
- The evolution in thinking about space power, from individual functions in a Cold War context (e.g., ballistic missile warning, strategic communications) to its current contributions across civil, commercial, and national security sectors and the elements of national power
- Strategic choices facing other nations with respect to development and utilization of space capabilities, products, technologies, and services

- Contemporary issues such as dual-use technologies, export controls, remote sensing licenses, space launch, spectrum management, and the U.S. aerospace industrial base

Students will prepare group presentations on major space functions (e.g., communications, navigation, remote sensing, space launch, weather, and surveillance), write three short papers on international developments, and a substantial term paper on a significant issue in international space policy.

#### Learning Outcomes

- Students will gain a broad understanding of international space trends and issues affecting U.S. national interests and those of its allies and partners.
- Students will be able to identify and understand the interaction of technical, regulatory, and political factors applicable to major dual-use space technologies.
- Students will be able to understand and evaluate the basic impacts of domestic policy, regulation and international relations on the acquisition and operation of space systems.

Office Hours: By appointment

Grading: Primary emphasis will be on reading assignments, writing assignments and class participation. Each week during the term, students will be expected to come to the course meeting familiar with the assigned readings related to that week's topic and able to participate in discussions.

Grades will be based on class participation (10%), a student team-based tutorial on a space function assigned by the instructor (15%), three short memo assignments (15% each), and a final 12-15 page (4,000-5,000 word) paper (30%) on a topic of the student's choosing, subject to instructor approval. Final papers should be submitted electronically to [space1@gwu.edu](mailto:space1@gwu.edu) within five days of the last class.

Guidelines for PowerPoint presentation: The PowerPoint presentation should be no more than 10 charts and should be written for the person who has little-to-no knowledge of the technical field. The presentation is intended to be a brief tutorial on a particular space function and the technical, operational, and policy significance of that function. Specific functions will be assigned to student teams by the instructor and will include positioning/navigation/timing (PNT), space communications, remote sensing, weather (Earth and space), surveillance and warning, and space launch. Total presentation time cannot exceed 15 minutes and students may form teams of their own choosing. The tutorial presentation will be graded for accuracy, clarity, objectivity, and completeness.

Guidelines for short memos: The memos should be directed to a national policy-level decision

maker and students should seek out historical examples for style and form. Memos must be no longer than 2-3 written pages using 12-point Times Roman font, have 1 inch or greater margins, and be single-spaced. The page limit may be exceeded if adding a graphic to make a point more clearly. The memos will be graded for accuracy, clarity, objectivity and completeness.